IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Francisco Javier LOPEZ PEREZ et al. Docket No.: CUC-117

Serial No. Group Art Unit:

Filed: Examiner:

For: SYSTEM TO INCREASE THE CAPACITY OF THE SATELLITE INTERMEDIATE FREQUENCY SIGNAL DISTRIBUTION NETWORKS

600 Third Avenue
New York, NY 10016
April 16, 2001

Assistant Commissioner
for Patents
Washington, D. C. 20231

AMENDMENT CONCURRENT WITH FILING

SIR:

This is an amendment concurrent with filing. Please amend the application as follows:

IN THE CLAIMS:

Please amend claims 2-8. Attached is a marked-up set of claims 2-8 and a clean version of claims 2-8 as amended.

REMARKS

This amendment is to place claims 2-8 in conventional US format with respect to claim dependency.

Respectfully submitted,
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CLAIMS

1.- System to increase the capacity of the satellite intermediate frequency signal distribution networks, of the type that are comprised of a header which receives the channels (CH) with the original signals in QPSK format, processes them and sends them to a converter which sends its output signals to the user's receiver, characterised because in the header at least some of the channels (CHP) are processed at QAM form and because the converter converts the QAM modulation format into QPSK modulation format.

(Amended)
2.- System to increase the capacity of the satellite intermediate frequency signals distribution networks, according to claim 1 ~~previous claim~~, characterised because the converter (CU1) has a tuner (T1), which selects the UHF frequency margin where the processor channels with QAM format (CHP) to be processed are found, and converts them into a lower frequency, which can be treated by a QAM DQAM1 demodulator (d), obtaining at the output the original basic band signal, which is processed by the encoder (e) QPSK, which supplies the I and Q signals necessary for a later modulator IQ m), which generates a radiofrequency signal in a low value frequency modulated in QPSK format, which is delivered to an agile converter (CA1), which transfers it to the frequency margin included within the FIS and whose output supplies a selector switch S1 which selects, by means of a control microprocessor (MP1), the origin of signals to be presented at the output (SFI1) of the selector switch (S1) which in one position (1), selects the signals in QPSK format, which originally belonged to the processed channels (CHP) and in another position (2), selects the original signals (CH) not processed in QAM format.

(Amended)
3.- System to increase the capacity of the satellite intermediate frequency signal distribution network, according to claim 1 ~~previous claims~~, characterised because the header has transparent digital transmodulators (TDT) to transform the QPSK format of some of the original channels (CH) into QAM modulation format situated in another position of the spectrum for the processed channels (CHP).

(Amended)
4.- System to increase the capacity of the satellite intermediate frequency signal distribution networks, according to claim 1 ~~previous claims~~, characterised

because the header has a signal adder (SM1) where the QAM signals generated by all the TDTs mix with the rest of QPSK signals not processed and, possibly, with the terrestrial television diffusion signals to form a multiplex of different kinds of signals.

(Amended)
5.- System to increase the capacity of the satellite intermediate frequency signal distribution, according to claim 2 ~~second claim~~, characterised because the converter (CU1) has a filter FUHF, at whose auxiliary output SUHF1 the terrestrial diffusion analogue signals are available.

(Amended)
6.- System to increase the capacity of the satellite intermediate frequency signal distribution networks, according to claim 2 ~~number two~~, characterised because the control microprocessor MP1 is governed in turn by the user receiver IRD1 through the communications port PRS232.

(Amended)
7.- System to increase the capacity of the satellite intermediate frequency signal distribution networks, according to claim 6 ~~number six~~, characterised because the converter is controlled by the user receiver, preferably through a bus RS-232, which determines both the input, the output frequency and the position of the signal source selection switch..

(Amended)
8.- System to increase the capacity of the satellite intermediate frequency signal distribution networks, according to claim 4 ~~number four~~, characterised because the signals forming this multiplex are transported to the subscriber's home by means of a distribution network, which can be built around a coaxial cable, fibre optic or a combination of both.

CLAIMS

1.- System to increase the capacity of the satellite intermediate frequency signal distribution networks, of the type that are comprised of a header which receives the channels (CH) with the original signals in QPSK format, processes them and sends them to a converter which sends its output signals to the user's receiver, characterised because in the header at least some of the channels (CHP) are processed at QAM form and because the converter converts the QAM modulation format into QPSK modulation format.

2. (Amended) System to increase the capacity of the satellite intermediate frequency signals distribution networks, according to claim 1 characterised because the converter (CU1) has a tuner (T1), which selects the UHF frequency margin where the processor channels with QAM format (CHP) to be processed are found, and converts them into a lower frequency, which can be treated by a QAM DQAM1 demodulator (d), obtaining at the output the original basic band signal, which is processed by the encoder (e) QPSK, which supplies the I and Q signals necessary for a later modulator IQ m), which generates a radiofrequency signal in a low value frequency modulated in QPSK format, which is delivered to an agile converter (CA1), which transfers it to the frequency margin included within the FIS and whose output supplies a selector switch S1 which selects, by means of a control microprocessor (MP1), the origin of signals to be presented at the output (SFI1) of the selector switch (S1) which in one position (1), selects the signals in QPSK format, which originally belonged to the processed channels (CHP) and in another position (2), selects the original signals (CH) not processed in QAM format.

3. (Amended) System to increase the capacity of the satellite intermediate frequency signal distribution network, according to claim 1 characterised because the header has transparent digital transmodulators (TDT) to transform the QPSK format of some of the original channels (CH) into QAM modulation format situated in another position of the spectrum for the processed channels (CHP).

4. (Amended) System to increase the capacity of the satellite intermediate frequency signal distribution networks, according to claim 1 characterised

because the header has a signal adder (SM1) where the QAM signals generated by all the TDTs mix with the rest of QPSK signals not processed and, possibly, with the terrestrial television diffusion signals to form a multiplex of different kinds of signals.

5. (Amended) System to increase the capacity of the satellite intermediate frequency signal distribution, according to claim 2 characterised because the converter (CU1) has a filter FUHF, at whose auxiliary output SUHF1 the terrestrial diffusion analogue signals are available.

6. (Amended System to increase the capacity of the satellite intermediate frequency signal distribution networks, according to claim 2 characterised because the control microprocessor MP1 is governed in turn by the user receiver IRD1 through the communications port PRS232.

7. (Amended) System to increase the capacity of the satellite intermediate frequency signal distribution networks, according to claim 6 , characterised because the converter is controlled by the user receiver, preferably through a bus RS-232, which determines both the input, the output frequency and the position of the signal source selection switch..

8. (Amended) System to increase the capacity of the satellite intermediate frequency signal distribution networks, according to claim 4 characterised because the signals forming this multiplex are transported to the subscriber's home by means of a distribution network, which can be built around a coaxial cable, fibre optic or a combination of both.